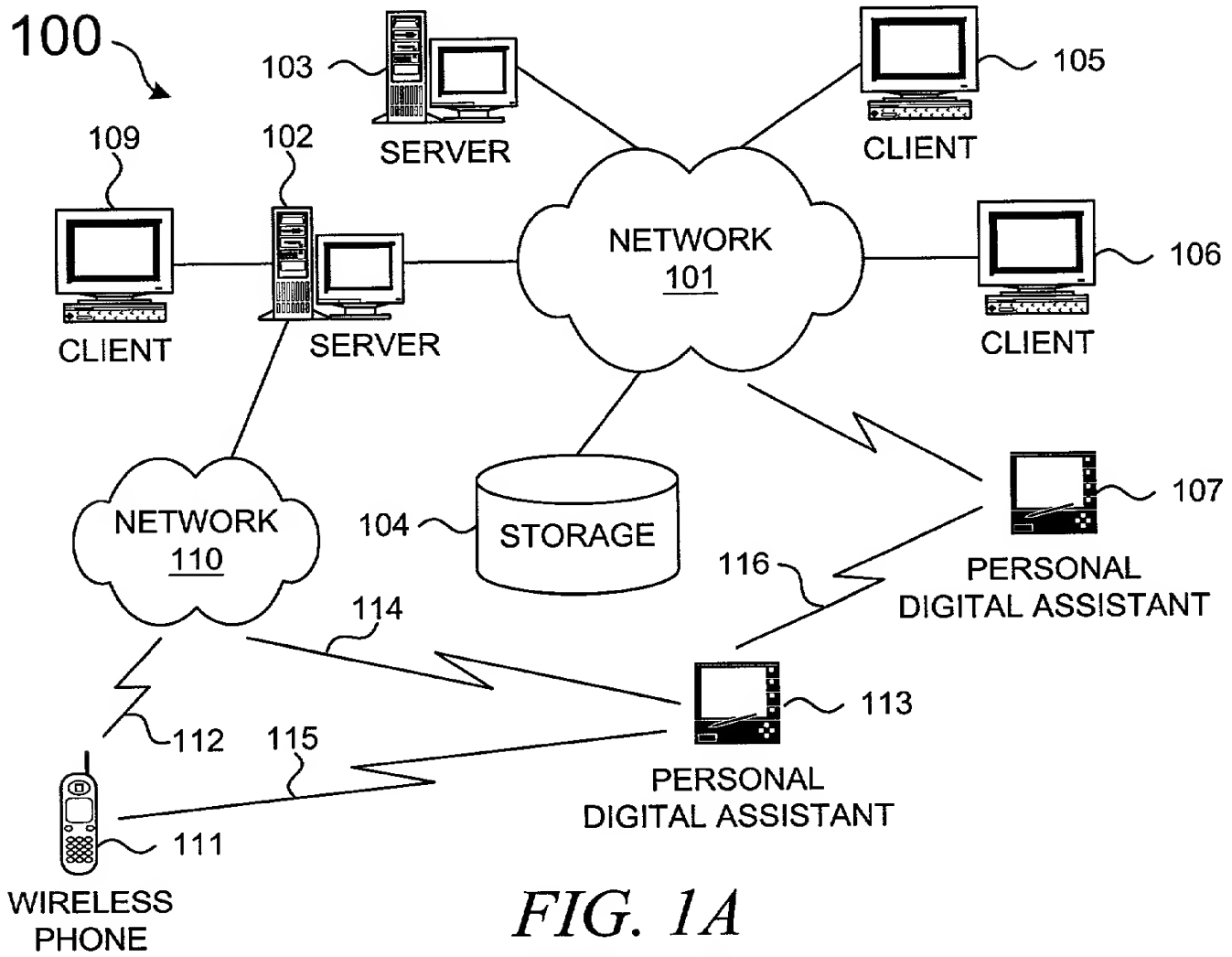

FIG. 1A
(PRIOR ART)

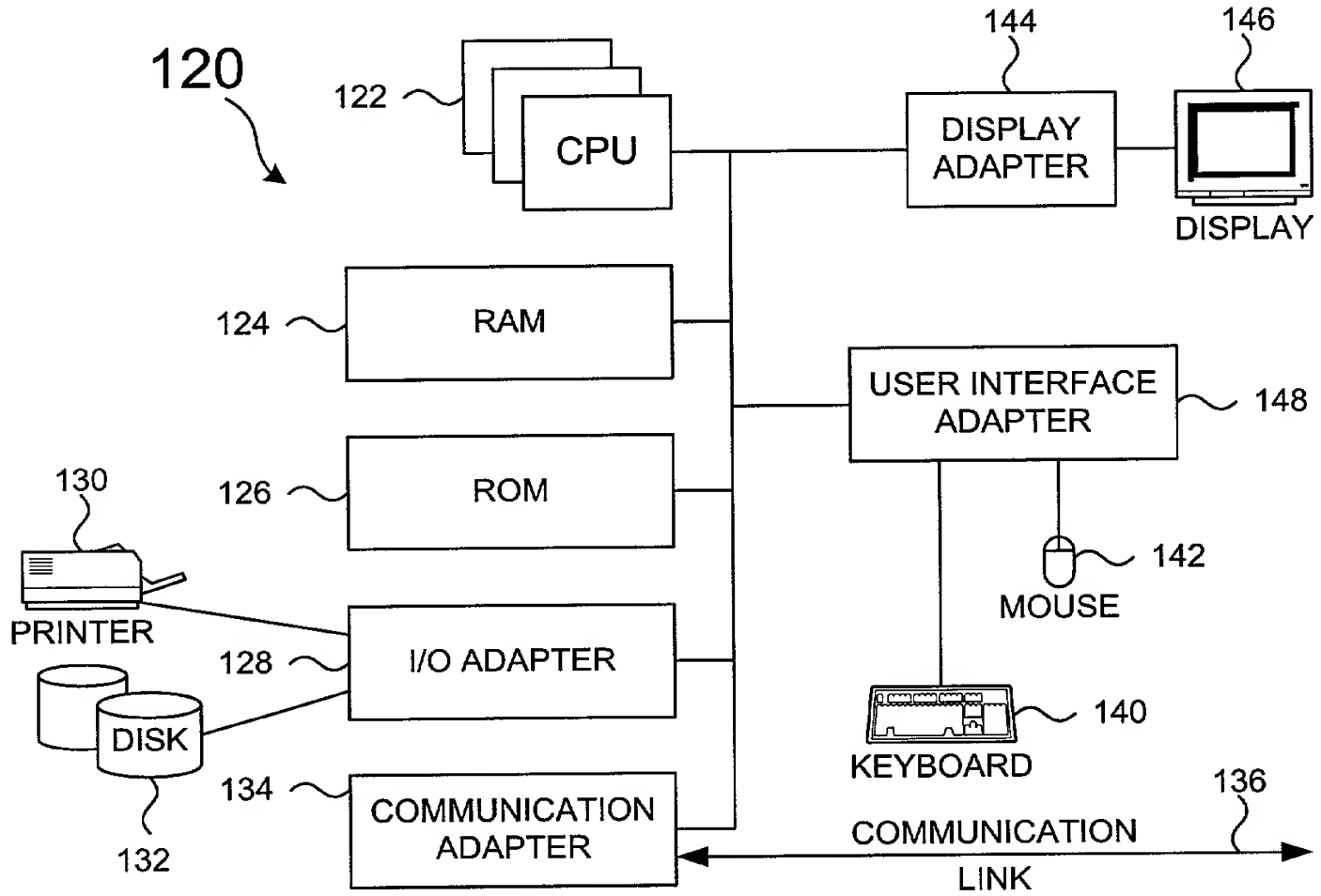

FIG. 1B
(PRIOR ART)

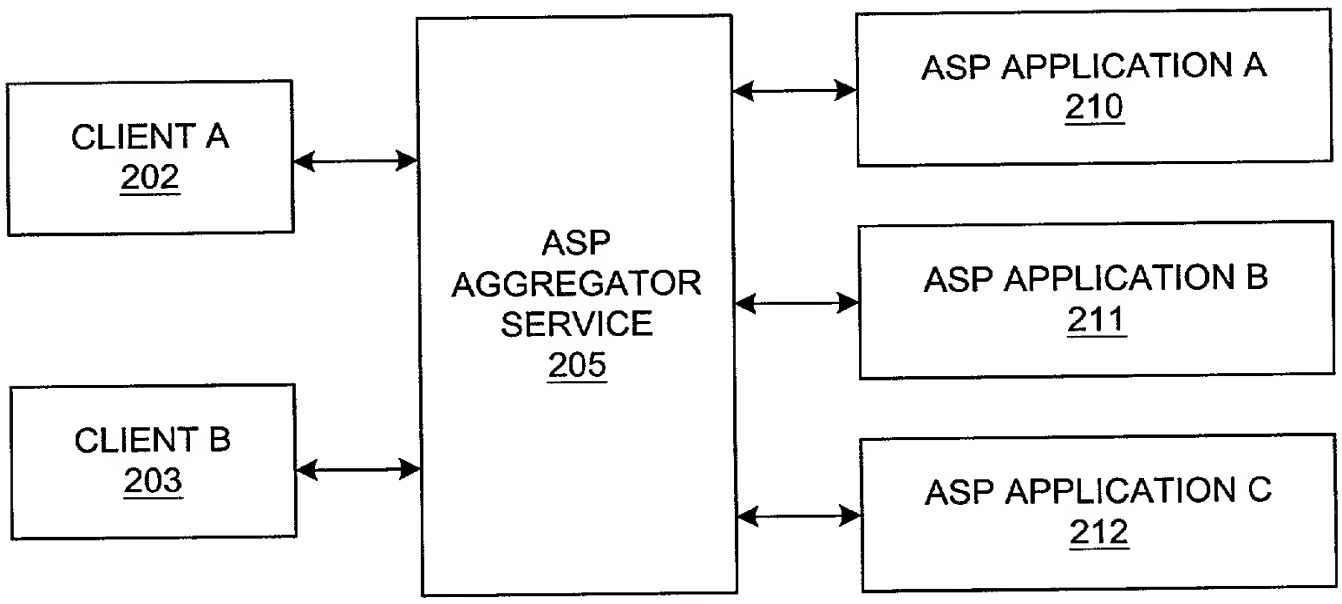

FIG. 2A
(PRIOR ART)

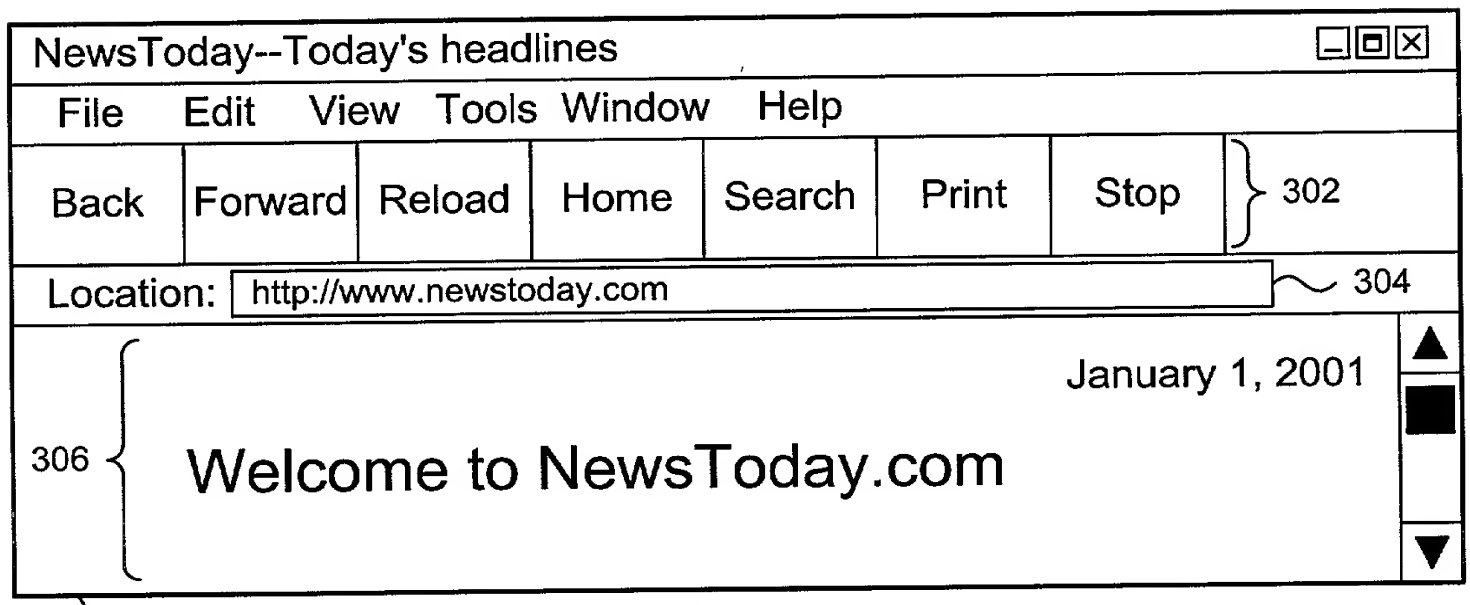

FIG. 3A
(PRIOR ART)

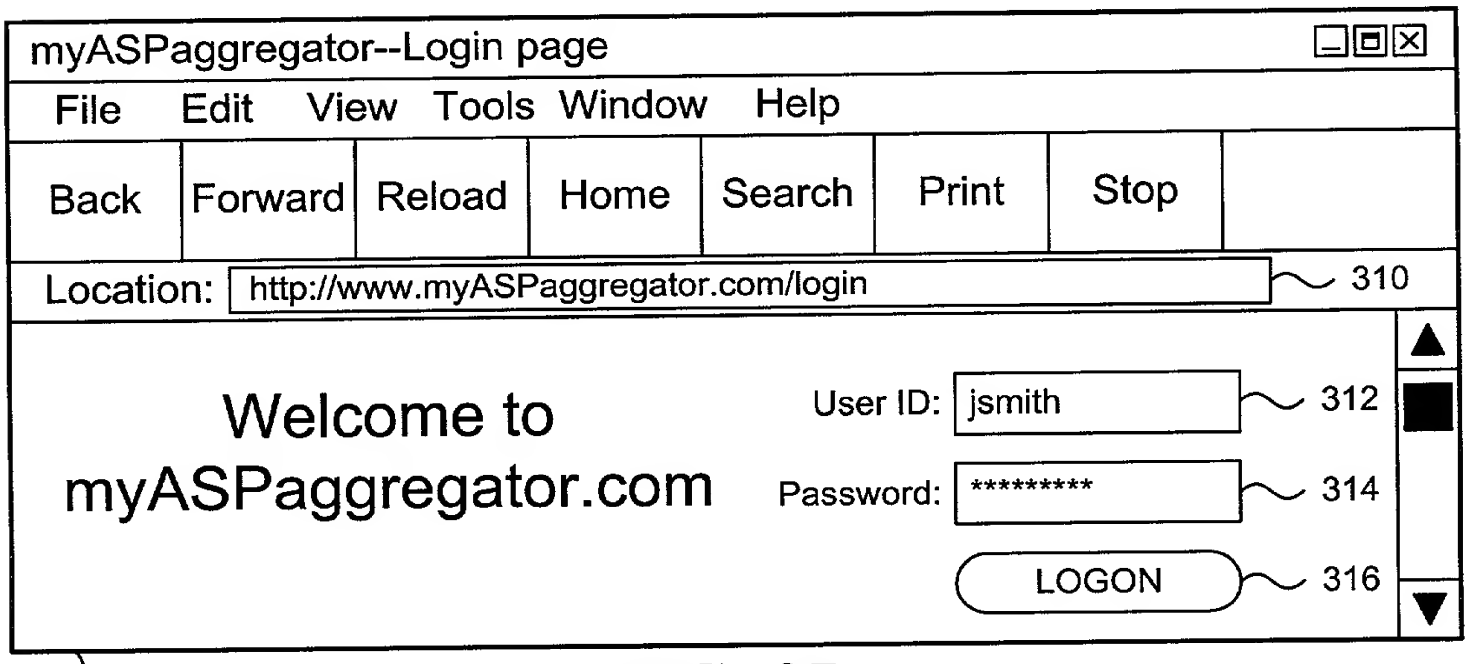

FIG. 3B
(PRIOR ART)

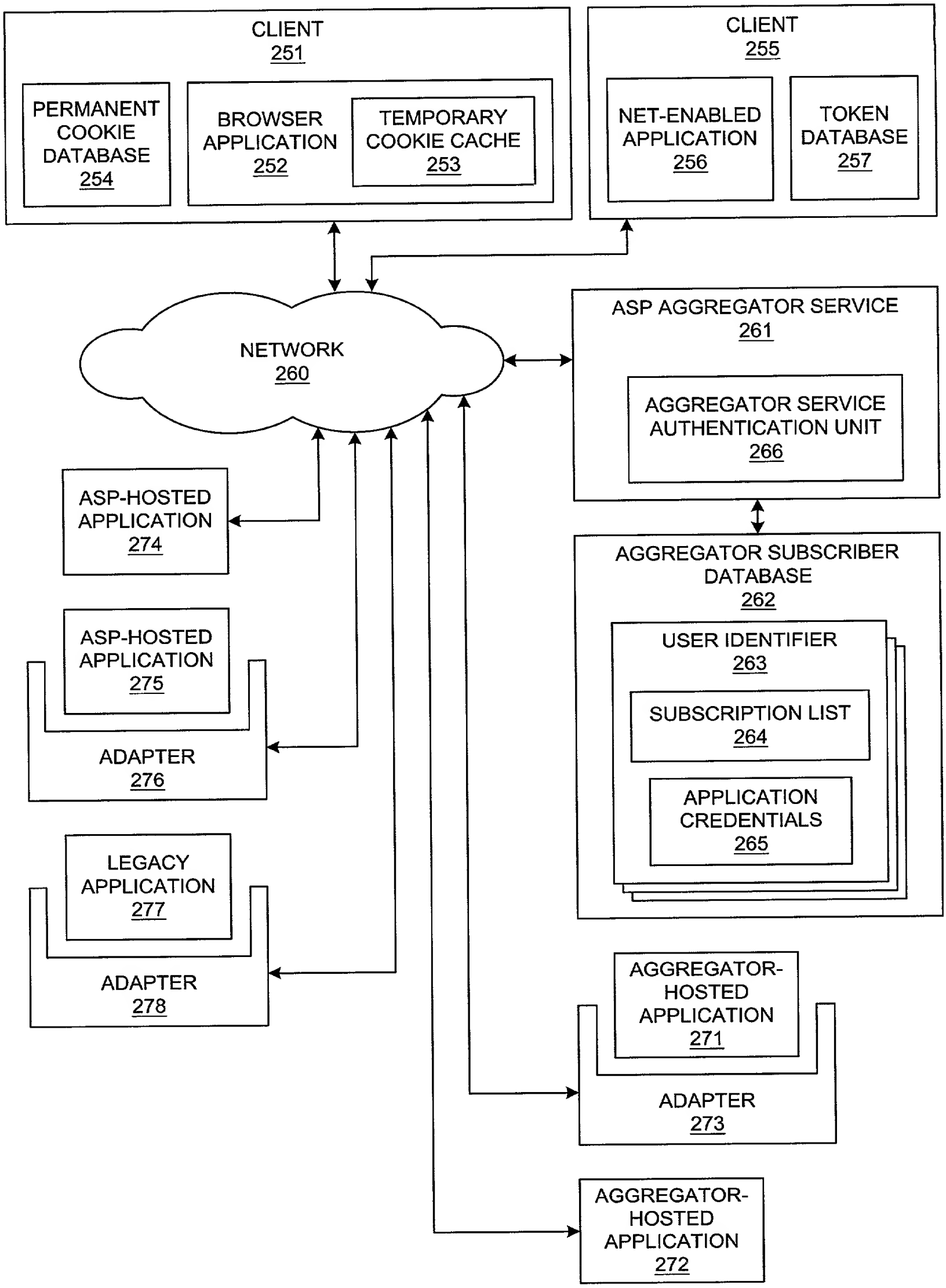

FIG. 2B
(PRIOR ART)

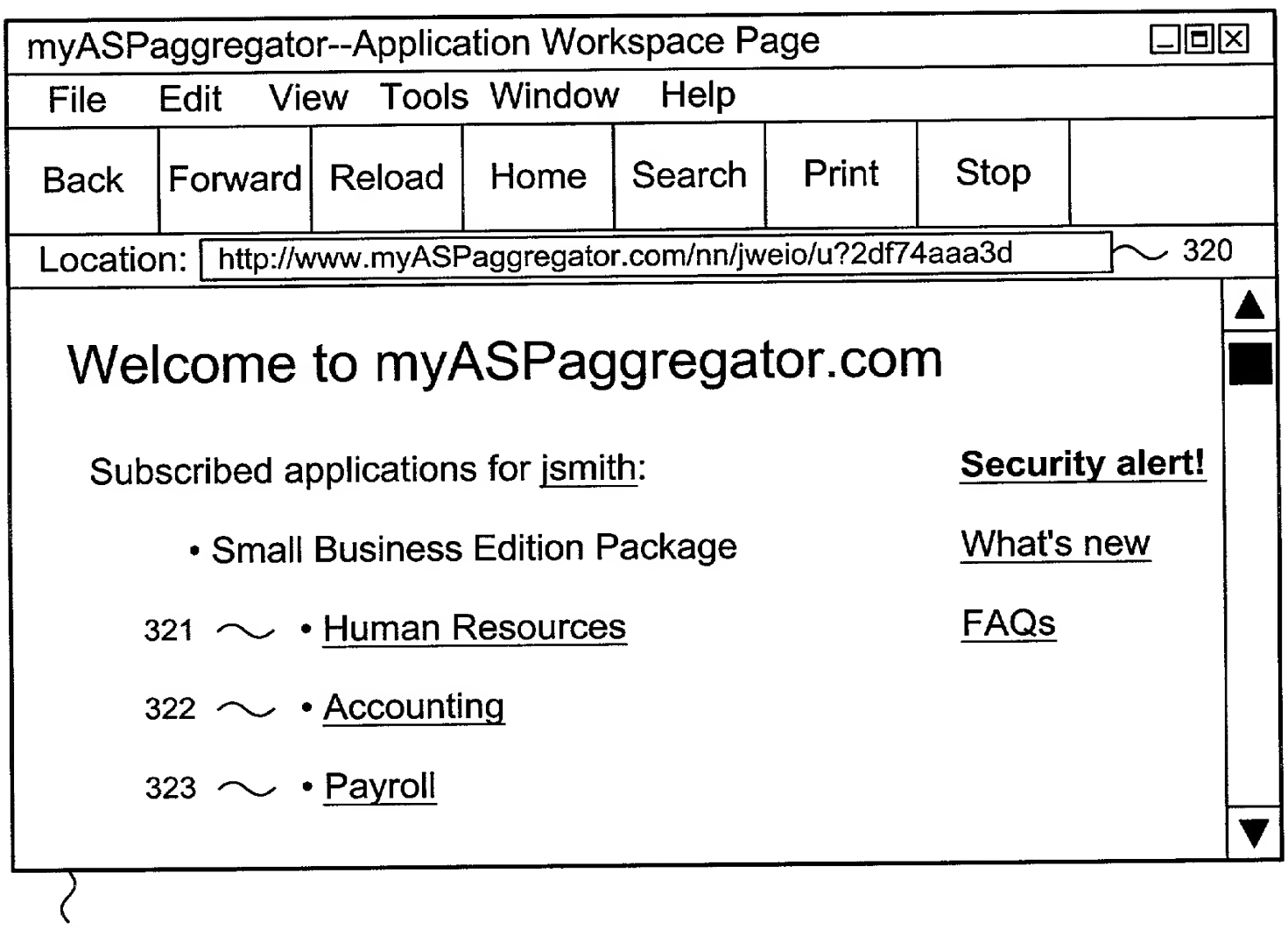

FIG. 3C
(PRIOR ART)

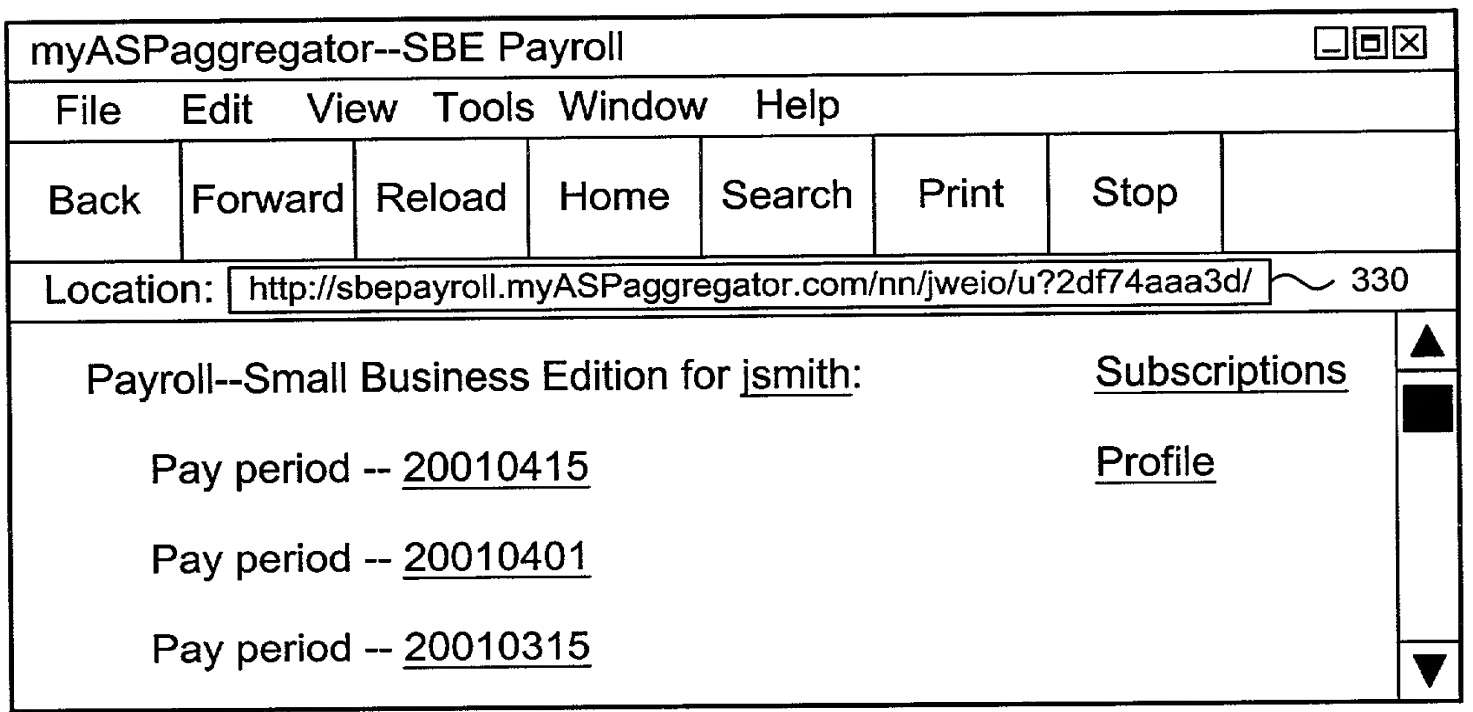

FIG. 3D
(PRIOR ART)

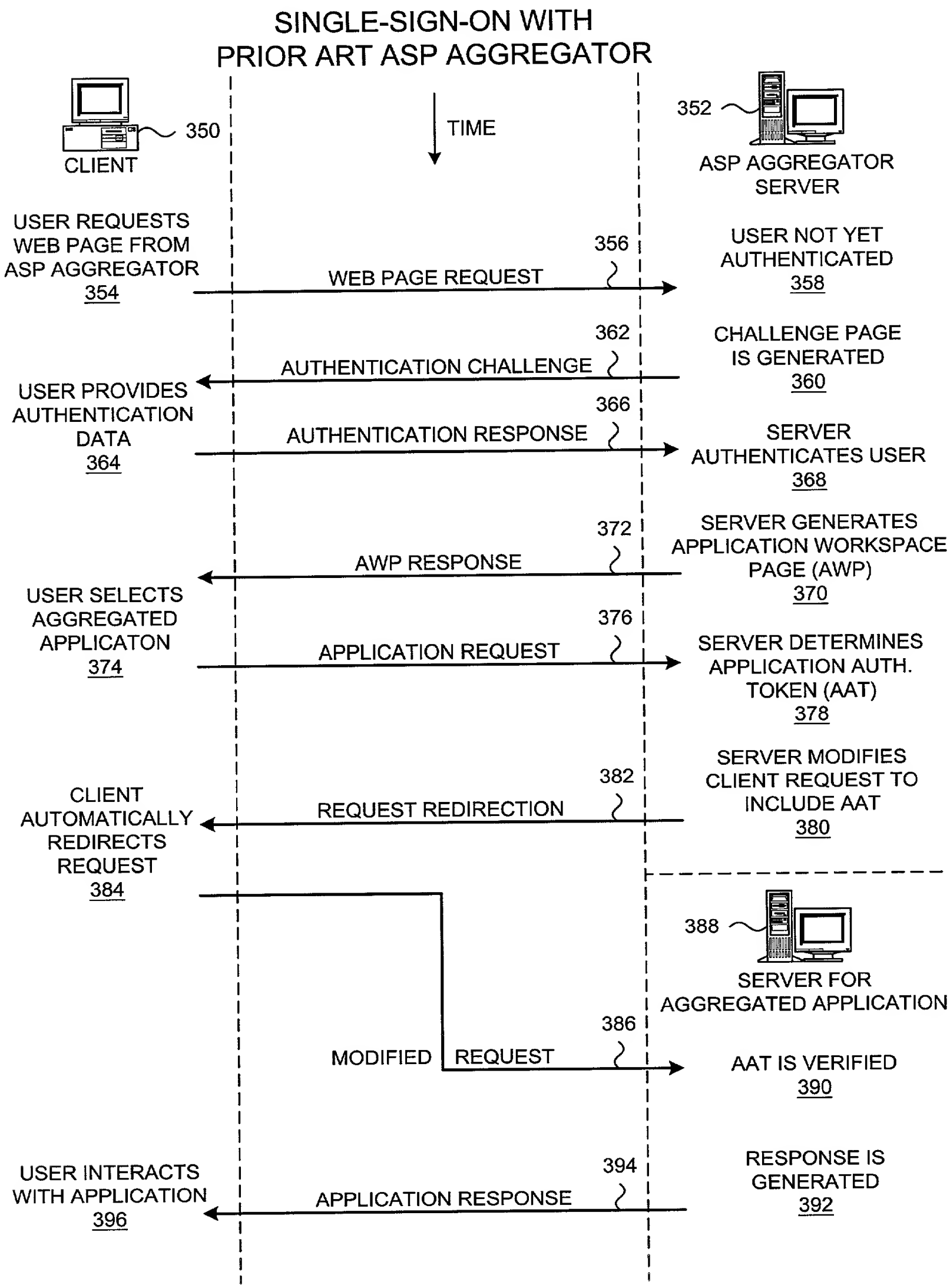

FIG. 3E
(PRIOR ART)

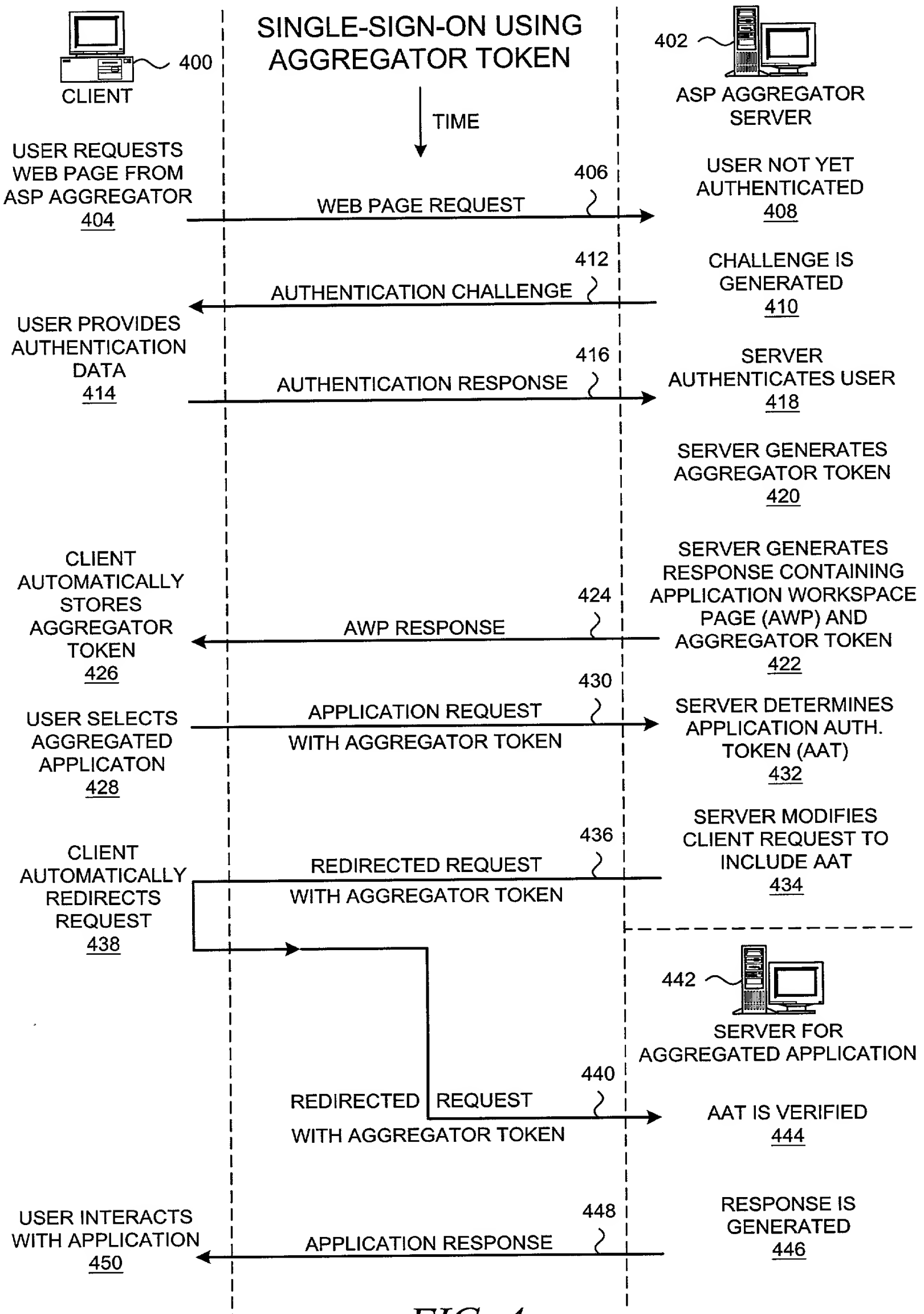
SINGLE-SIGN-ON USING AGGREGATOR TOKEN
CLIENT
400
TIME
ASP AGGREGATOR SERVER
402
USER REQUESTS WEB PAGE FROM ASP AGGREGATOR
404
406
WEB PAGE REQUEST
USER NOT YET AUTHENTICATED
408
412
AUTHENTICATION CHALLENGE
CHALLENGE IS GENERATED
410
USER PROVIDES AUTHENTICATION DATA
414
416
AUTHENTICATION RESPONSE
SERVER AUTHENTICATES USER
418
SERVER GENERATES AGGREGATOR TOKEN
420
CLIENT AUTOMATICALLY STORES AGGREGATOR TOKEN
426
424
AWP RESPONSE
SERVER GENERATES RESPONSE CONTAINING APPLICATION WORKSPACE PAGE (AWP) AND AGGREGATOR TOKEN
422
430
USER SELECTS AGGREGATED APPLICATON
428
APPLICATION REQUEST
WITH AGGREGATOR TOKEN
SERVER DETERMINES APPLICATION AUTH. TOKEN (AAT)
432
SERVER MODIFIES CLIENT REQUEST TO INCLUDE AAT
434
436
REDIRECTED REQUEST
WITH AGGREGATOR TOKEN
CLIENT AUTOMATICALLY REDIRECTS REQUEST
438
442
SERVER FOR AGGREGATED APPLICATION
440
REDIRECTED REQUEST
WITH AGGREGATOR TOKEN
AAT IS VERIFIED
444
USER INTERACTS WITH APPLICATION
450
448
APPLICATION RESPONSE
RESPONSE IS GENERATED
446

FIG. 4

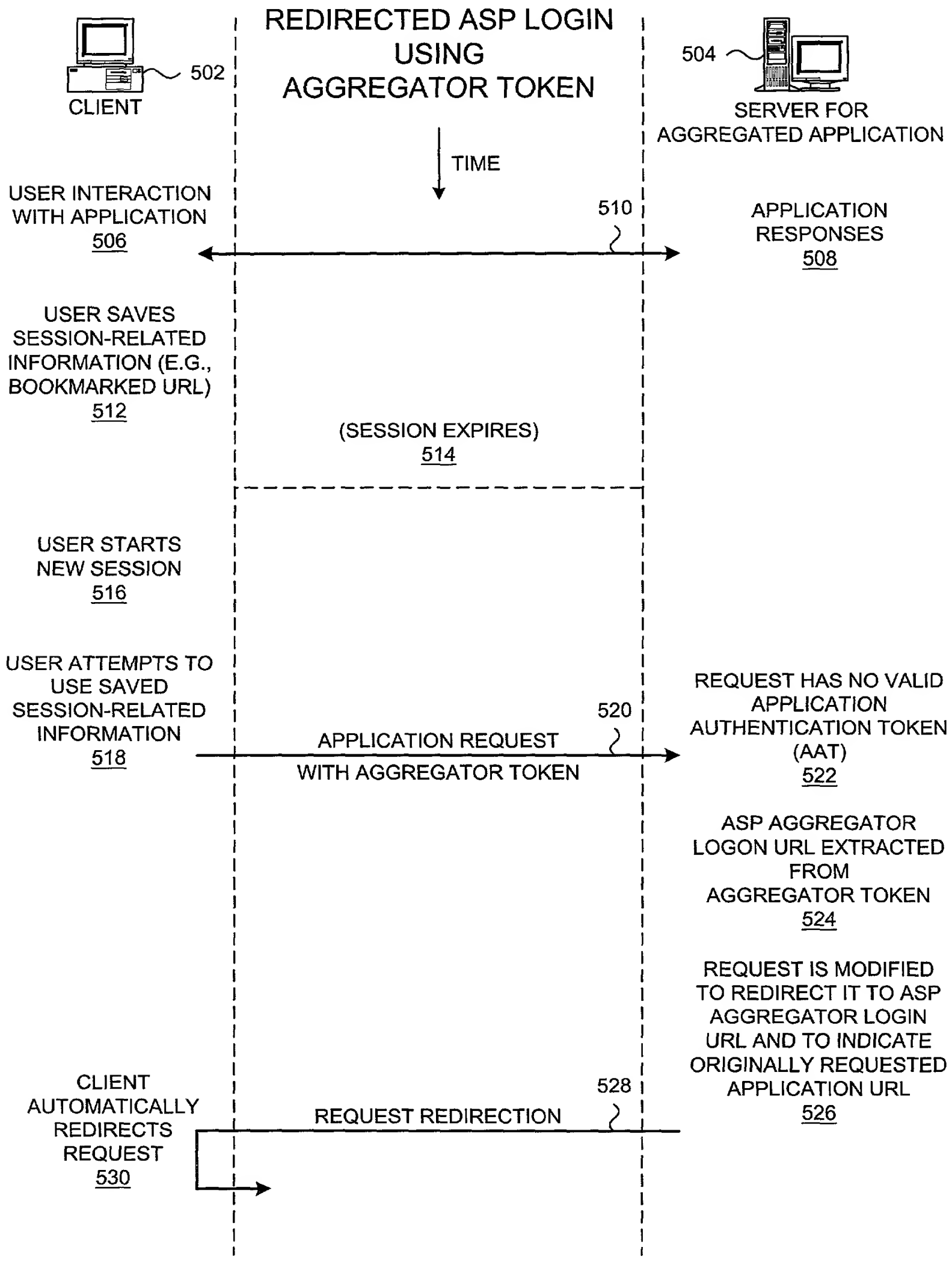
REDIRECTED ASP LOGIN USING AGGREGATOR TOKEN
CLIENT
502
504
SERVER FOR AGGREGATED APPLICATION
TIME
USER INTERACTION WITH APPLICATION 506
510
APPLICATION RESPONSES 508
USER SAVES SESSION-RELATED INFORMATION (E.G., BOOKMARKED URL) 512
(SESSION EXPIRES) 514
USER STARTS NEW SESSION 516
USER ATTEMPTS TO USE SAVED SESSION-RELATED INFORMATION 518
520
APPLICATION REQUEST WITH AGGREGATOR TOKEN
REQUEST HAS NO VALID APPLICATION AUTHENTICATION TOKEN (AAT) 522
ASP AGGREGATOR LOGON URL EXTRACTED FROM AGGREGATOR TOKEN 524
REQUEST IS MODIFIED TO REDIRECT IT TO ASP AGGREGATOR LOGIN URL AND TO INDICATE ORIGINALLY REQUESTED APPLICATION URL 526
CLIENT AUTOMATICALLY REDIRECTS REQUEST 530
528
REQUEST REDIRECTION

FIG. 5A

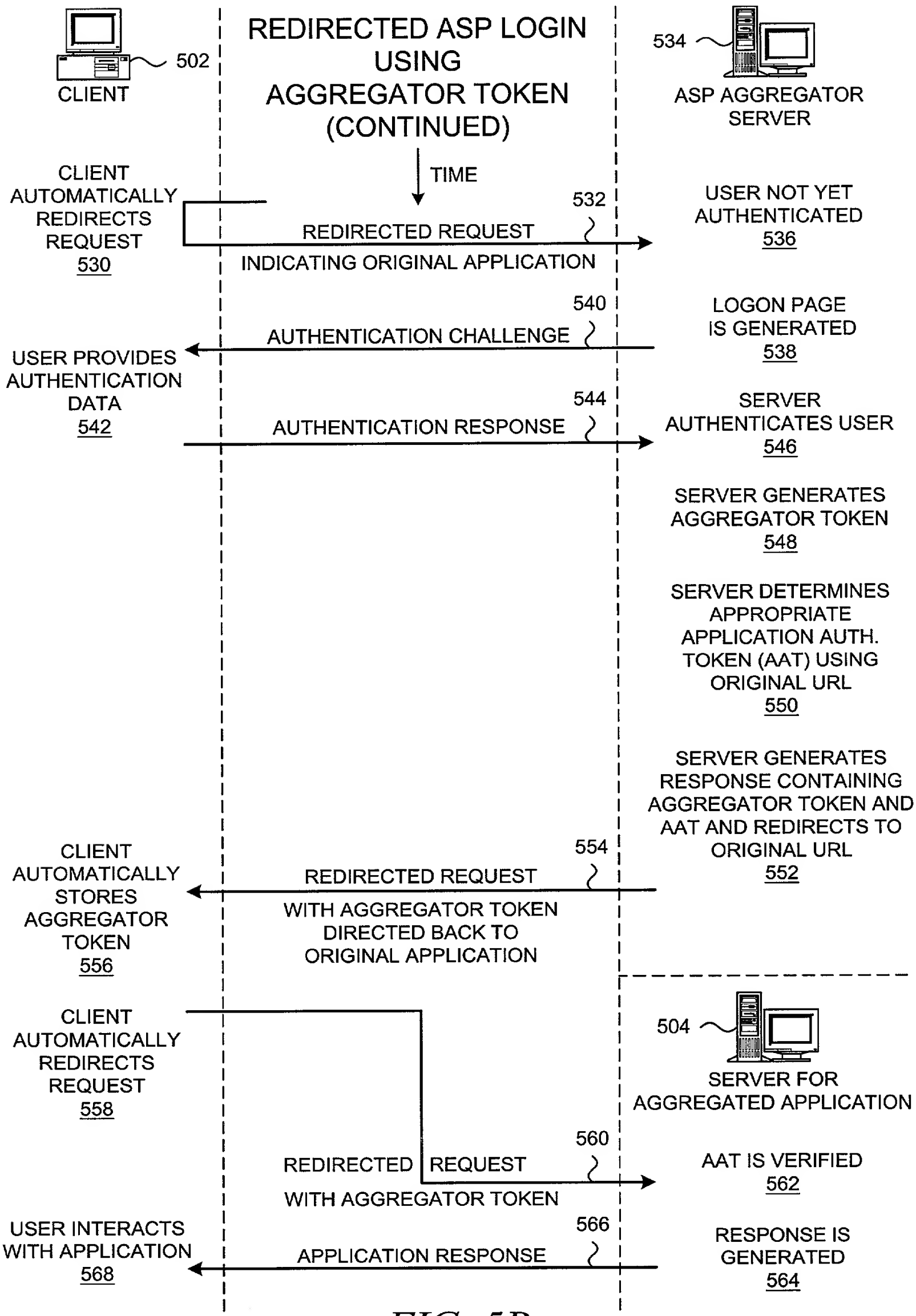
REDIRECTED ASP LOGIN USING AGGREGATOR TOKEN (CONTINUED)
CLIENT
502
ASP AGGREGATOR SERVER
534
TIME
CLIENT AUTOMATICALLY REDIRECTS REQUEST 530
532
REDIRECTED REQUEST
INDICATING ORIGINAL APPLICATION
USER NOT YET AUTHENTICATED 536
540
AUTHENTICATION CHALLENGE
LOGON PAGE IS GENERATED 538
USER PROVIDES AUTHENTICATION DATA 542
544
AUTHENTICATION RESPONSE
SERVER AUTHENTICATES USER 546
SERVER GENERATES AGGREGATOR TOKEN 548
SERVER DETERMINES APPROPRIATE APPLICATION AUTH. TOKEN (AAT) USING ORIGINAL URL 550
SERVER GENERATES RESPONSE CONTAINING AGGREGATOR TOKEN AND AAT AND REDIRECTS TO ORIGINAL URL 552
554
REDIRECTED REQUEST
WITH AGGREGATOR TOKEN DIRECTED BACK TO ORIGINAL APPLICATION
CLIENT AUTOMATICALLY STORES AGGREGATOR TOKEN 556
504
SERVER FOR AGGREGATED APPLICATION
CLIENT AUTOMATICALLY REDIRECTS REQUEST 558
560
REDIRECTED REQUEST
WITH AGGREGATOR TOKEN
AAT IS VERIFIED 562
566
APPLICATION RESPONSE
RESPONSE IS GENERATED 564
USER INTERACTS WITH APPLICATION 568

FIG. 5B